

REMARKS

Claims 1-7 remain in this application. Claim 1 has been amended. No claims have been added or cancelled. The Applicants respectfully request reconsideration of this application in view of the above amendments and the following remarks.

Interview Summary

Applicants would like to thank the Examiner for granting the telephonic interview that was conducted in the present application on November 15, 2005 at 11:00 MST. The participants in the interview included the Examiner and the undersigned. The purpose of the interview was to discuss the 35 U.S.C. 102(e) rejection of claim 1 on U.S. Patent No. 6,535,659 to Levy. The substance of the interview included verbally summarizing the arguments that were previously presented in the response that was filed on September 16, 2005 with regards to Levy. Applicants and Examiner tentatively agreed that Levy did not teach or reasonably suggest performing electrical and optical testing of the performance of a planar lightwave circuit, such as, for example, to discover defects, perform debug, and/or ensure device operation, or the like. No exhibits were shown or demonstrated.

35 U.S.C. §102(e) Rejection - Levy

The Examiner has rejected claim 1 under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,535,659 issued to Levy et al. ("Levy").

As an initial matter, Levy may not represent effective prior art to the present application because of Applicant's early date of invention. However, while making this statement, and reserving the right to swear behind Levy in the future, the Applicant chooses at this time to present arguments pointing out certain differences between claim

1 and the disclosure of Levy. The Applicants respectfully submit that the present claims are not anticipated by Levy.

Claim 1 recites “*A method of electrically and optically testing a planar lightwave circuit comprising: placing the planar lightwave circuit on a test fixture the test fixture including a printed circuit board; electrically coupling the printed circuit board to the planar lightwave circuit; electrically coupling the printed circuit board to a tester; optically coupling the planar lightwave circuit to the tester; and performing electrical and optical testing of performance of the planar lightwave circuit*”.

Levy does not teach or reasonably suggest either: (a) **optically coupling** the planar lightwave circuit to the tester; or (b) **optically testing performance of the planar lightwave circuit**. Rather, as Applicants have previously argued, Levy discusses **electrically testing** waveguide array units (see for example the Field of the Invention).

In the previous Office Action mailed on 06/16/05, at page four under the section “Response to Arguments”, the Examiner has stated “*Examiner disagrees because at lines 39-41 of column 1, Lavy discloses testing of an electrical integrity of the planar lightwave circuit. Lavy also uses tester (control circuit 26) to control the beam of planar lightwave circuit using electrical connection 28 and 30. Therefore, the planar lightwave circuit is optically and electrically connected to the tester as claimed for testing (i.e. to control a beam). Also, the planar lightwave circuit is on test fixture 22 during testing, therefore argument regarding interconnect unit 10 is not true*”.

Applicants respectfully disagree with the Examiner’s understanding. **There is absolutely no teaching or suggestion that control circuit 26 is a “tester” or that the integrated optical interconnect unit 10 shown in Figure 1 is used to test the waveguide array structure.** As understood by Applicants the optical interconnect unit 10 shown in Figure 1 is not used for testing of the waveguide array. Further, Levy

specifically teaches that “[a]n integrated waveguide array structure allows **electrical testing** of each unit for shorts between waveguide elements of the array, and shorts between waveguides and the substrate **prior to assembly into a larger optico-electronic unit**” (see e.g., the Abstract). Furthermore, there is absolutely no teaching or suggestion that control circuit 26 perform optical testing of **performance** of the planar lightwave circuit.

Levy discusses how the electrical testing may be performed at column 5, lines 19-32. “Referring again to FIG. 3, an individual waveguide array 44 is **electrically tested** by applying leads of a **suitable test instrument (not shown)**, such as an **ohmmeter**, to each of the **cross bars 56, 60.**” “After completion of electrical testing, **the right terminal segment 54 and the left terminal segment 58 are separated from the central segment 46 using scribe lines 70, 72, and discarded.** The central segment 46 is then ready for **assembly in an optico-electronic device according to a particular application without fear of malfunction due to electrical shorts in the waveguide array.**” **Applicants submit that this is clearly an electrical test not an optical test.**

Accordingly, Levy does not teach or reasonably suggest either: (a) optically coupling the planar lightwave circuit to the tester; or (b) optically testing the planar lightwave circuit.

Anticipation under 35 U.S.C. Section 102 requires every element of the claimed invention be identically shown in a single prior art reference. The Federal Circuit has indicated that the standard for measuring lack of novelty by anticipation is **strict identity**. “For a prior art reference to anticipate in terms of 35 U.S.C. Section 102, every element of the claimed invention must be identically shown in a single reference.” *In Re Bond*, 910 F.2d 831, 15 USPQ.2d 1566 (Fed. Cir. 1990).

For at least these reasons, **claim 1** is believed to be allowable over Levy. **Claims 2-7** depend from **claim 1** and are believed to be allowable therefor, as well as for the recitations independently set forth therein.

35 U.S.C. §103(a) Rejection - Levy in view of Forsyth

The Examiner has rejected claims 2-7 under 35 U.S.C. §103(a) as being unpatentable over Levy as applied to claim 1 above, and further in view of U.S. Patent No. 4,910,548 issued to Forsyth et al. ("Forsyth").

Firstly, Applicants do not think that it is appropriate to combine Levy and Forsyth. Applicants may elect at a later date to argue formally that Levy and Forsyth should not be combined.

Secondly, the combination of Levy and Forsyth proposed by the Examiner does not teach or suggest all of the limitations of **claim 1**. As discussed above, Levy does not discuss optical testing, let alone optical testing of performance. Forsyth does not remedy what is missing from Levy in this regard.

To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the references or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest **all the claim limitations**. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on Applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

Accordingly, **claim 1** and its dependent **claims 2-7** are believed to be allowable over Levy and Forsyth.

Conclusion

In view of the foregoing, it is believed that all claims now pending patentably define the subject invention over the prior art of record and are in condition for allowance. Applicants respectfully request that the rejections be withdrawn and the claims be allowed at the earliest possible date.

Request For Telephone Interview

The Examiner is invited to call Brent E. Vecchia at (303) 740-1980 if there remains any issue with allowance of the case.

Request For An Extension Of Time

The Applicants respectfully petition for an extension of time to respond to the outstanding Office Action pursuant to 37 C.F.R. § 1.136(a) should one be necessary. Please charge our Deposit Account No. 02-2666 to cover the necessary fee under 37 C.F.R. § 1.17 for such an extension.

Charge Our Deposit Account

Please charge any shortage to our Deposit Account No. 02-2666.

Respectfully submitted,
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